REMARKS/ARGUMENTS

The present Amendment is in response to the Office Action having a mailing date of March 30, 2005. Claims 1-21 are pending in the present Application. Applicant has added claims 22-26. Consequently, claims 1-26 remain pending in the present application.

Applicant has amended the specification to more clarify that, in one embodiment the generalized scalar function can simulate a column environment by providing the data from a row, entry by entry to the column function. Support for the amendment can be found in the Specification, page 7, line 21-page 9, line 6; page 9, line 12-page 10, line 13; and Figure 1, 3, 4, and 5. Applicant has also added claims 22, 23, 24, and 26, which more clearly recite that an entry corresponds to an intersection of a row and a column. Support for the amendment can be found in the specification, page 1, lines 9-14 and Figure 1. Applicant has added claim 25, which recites that the generalized scalar function simulating the column environment includes the generalized scalar function providing the entries of the row(s) entry by entry to the column function. Support for the amendment can be found in the specification, page 9, lines 12-18.

In the above-identified Office Action, the Examiner objected to the specification under 37 C.F.R. 1.71 as failing to provide an adequate description of the invention. The Examiner also rejected claims 1-21 under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not disclosed in the specification in such a manner as to allow one of ordinary skill in the art to make and/or use the invention. The Examiner also rejected claims 1-21 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter that the Applicant regards as the invention. The Examiner also rejected claims 1-21 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,289,336 (Melton) in view of U.S. patent No. 6,691,099 (Mozes).

In the above-identified Office Action, the Examiner objected to the specification under 37 C.F.R. 1.71 as failing to provide an adequate description of the invention. In particular, the Examiner stated that:

> **[t]he instant specification fails to disclose the actual, practical steps of a simulation mechanism and the corresponding data structure for simulating the claimed scalar function with row parameters into [the] conventional column parameter environment. . . . Furthermore, the specification also fails to describe a structure to be utilized to map the generalized function with a plurality of columns of a row into the claimed column function parameter. Moreover, it fails to disclose the technique to initialize, evaluate and finalize the claimed column function.**

Applicant respectfully disagrees with the Examiner's objection to the specification. Applicant respectfully submits that the recited generalized scalar function, the column function and the cooperation between the generalized scalar function and the column function are sufficiently disclosed in the specification. As previously discussed, the column function is a conventional column function. Specification, page 2, line 14-page 3, 12 and page 10, lines 9-13. See also, Paragraph 4, Declaration by Jason Cu (submitted with Amendment filed September 30, 2003). Moreover, the phases cited by the Examiner (initialize, evaluate, and finalize) as being inadequately disclosed are phases used by conventional, preexisting column functions. Specification, page 3, lines 13-19. Consequently, the described column function is a conventional function operating in a conventional manner employing conventional phases. Applicant respectfully submits that one of ordinary skill in the art would readily understand the use of such a *conventional* function and that the phases of the *conventional* column function are adequately described in the specification.

The generalized scalar function is also adequately described in the specification and depicted in the drawings. For example, as described in the specification, one embodiment of the generalized scalar function obtains the data in a row and provides the data, entry by entry, to the column function. Specification, page 8, line 10-page 9, line 2. See also, page 9, line 12-page 10,

line 8. Moreover, the specification describes entries as corresponding to intersections of rows and columns (e.g. entry 11 in Figure 1), rather than entire rows or other entities. Specification, page 1, lines 7-14. Because the column function receives the data entry by entry, the column function can operate on the data from the row. Specification, page 9, lines 1-4. Thus, the operation of a generalized scalar function and the operation of a particular embodiment of the generalized scalar function are adequately described in the specification.

Furthermore, the specification describes in detail how one embodiment of the generalized scalar function cooperates with a conventional column function. In particular, the embodiment of the generalized scalar function fetches the desired row and provides the entries in the row entry by entry to the column function. Specification, page 9, lines 12-18; page 10, lines 1-8. The specification even states: "the steps 154 [fetch row], 156 [provide first entry in row to column function], and 164 [provide next entry in row to column function] . . . are used to simulate the column environment for the rows 6, 7, or 8 that is input as an argument to the generalized scalar function." Specification, page 9, lines 16-18. Moreover, these operations performed by the generalized scalar function are *depicted* in Figure 4, items 152, 154, 156, 162, 164, and 170. The column function carries out its operations in a conventional manner by performing the appropriate ones of the initialization, evaluation, and finalization phases. Specification, page 9, line 18-page 10, line 6 and Figure 4, items 158, 160, and 166. Consequently, the specification not only describes with specificity an embodiment of the generalized scalar function, but also describes and depicts the operation of this embodiment of the generalized scalar function in conjunction with the conventional column function. Accordingly, Applicant respectfully submits that the specification complies with 37 C.F.R. 1.71, providing an adequate description of the invention.

In the above-identified Office Action, the Examiner also rejected claims 1-21 under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not disclosed in the specification in such a manner as to allow one of ordinary skill in the art to make and/or use the invention. In so doing, the Examiner stated:

> **the submitted specification fails to show the form of a generalized scalar function. It also fails to describe a structure to be utilized to map the generalized function to a plurality of columns of a row into the claimed column function parameter. Furthermore, it fails to disclose the technique to initialize, evaluate and finalize the claimed column function.**

Applicant respectfully disagrees with the Examiner's rejection. Applicant notes that none of the claims recite a "generalized function" being mapped to columns of a row into a column function parameter. Instead, generalized scalar functions and (conventional) column functions are recited. As discussed above, the specification clearly indicates that the recited column function is a *conventional* column function. Consequently, the initializing, evaluating, and finalizing phases may be conventional phases performed in a conventional manner. Such phases are, therefore, well known and available in pre-existing column functions. As a result, upon reading the specification, one of ordinary skill in the art would readily understand how to make and/or use the recited column functions.

One of ordinary skill in the art would readily understand how to make and/or use the recited generalized scalar function. Applicant respectfully draws the Examiner's attention to the specification page 8, line 10-page 9, line 2 as well as to page 9, lines 12-18. These portions of the specification describe one embodiment of a generalized scalar function that provides data to the column function entry by entry. Applicant further draws the Examiner's attention to Figure 4, items 152, 154, 156, 162, 164, and 170. These elements of Figure 4 depict the generalized scalar function and how the generalized scalar function operates. Furthermore, Figure 5 depicts the relationship

between the generalized scalar function and the column function. As a result, upon reading the specification, one of ordinary skill in the art would readily understand how to make and/or use the recited generalized scalar functions. Accordingly, applicant respectfully submits that one of ordinary skill in the art would be enabled in making and/or using the invention as recited in claims 1-21.

The Examiner also rejected claims 1-21 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter that the Applicant regards as the invention. In so doing, the Examiner stated:

> **applicants fail to disclose the claimed simulation mechanism and the corresponding data structures for simulating the claimed scalar function with row parameter into conventional column parameter environment. Particularly, the submitted specification fails to show the form of a generalized scalar function. It also fails to describe a structure to be utilized to map the generalized function to a plurality of columns of a row into the claimed column function parameter. Furthermore, it fails to disclose the technique to initialize, evaluate and finalize the claimed column function.**

Applicant respectfully disagrees with the Examiner's rejection. As a preliminary matter, Applicant notes that the "generalized function" is not mapped to columns of a row. Similarly, the scalar function is not simulated. Instead, as recited in independent claims 1, 8, and 15, the generalized scalar function is used to simulate the column environment for the row. The generalized scalar function is described in the specification and depicted in the figures. See, for example, Specification, page 8, line 10-page 9, line 2. See also, page 9, line 12-page 10, line 8. In particular, one embodiment of the generalized scalar function is described as fetching a row, providing the first entry in the row to the column function, and providing subsequent entries in the row to the column function entry by entry. Specification, page 9, lines 12-18 and Figure 4, items 154, 156, 162, and 164. Thus, the form of one embodiment of the generalized scalar function is essentially depicted at a flow chart level in a portion of Figure 4 and described in the accompanying

discussion. In addition, the cooperation of this embodiment of the generalized scalar function with the column function is described and depicted. Specification, page 9, lines 12-18; page 10, lines 1-8 and Figure 4. The specification even states: "the steps 154 [fetch row], 156 [provide first entry in row to column function], and 164 [provide next entry in row to column function] . . . are used to simulate the column environment for the rows 6, 7, or 8 that is input as an argument to the generalized scalar function." Specification, page 9, lines 16-18. Consequently, Applicant respectfully submits that the recited generalized scalar function is clear and definite.

As previously discussed, the column function carries out its operations in a conventional manner by performing the appropriate ones of the initialization, evaluation, and finalization phases. Specification, page 9, line 18-page 10, line 6 and Figure 4, items 158, 160, and 166. Consequently, the recited column function is also clear and definite. Accordingly, Applicant respectfully submits that independent claims 1, 8, and 15 are clear and definite.

Claims 2-7, 9-14, and 16-21 depend upon independent claims 1, 8, and 15, respectively. Consequently, the arguments herein apply with full force to claims 2-7, 9-14, and 16-21. Accordingly, Applicant respectfully submits that claims 2-7, 9-14, and 16-21 are clear and definite.

The Examiner also rejected claims 1-21 under 35 U.S.C. § 103 as being unpatentable over Melton in view of Mozes.

Applicant respectfully disagrees with the Examiner's rejection. Claim 1 recites:

> A method for utilizing a column function for a relational database in a structure query language (SQL) environment, the column function capable of performing an operation on an indeterminate number of entries, the relational database utilizing data including a plurality of entries being organized into at least one column and at least one row, the method comprising the steps of:
>
> (a) allowing a user to specify the at least one row as an argument for a generalized scalar function;

(b) simulating a column environment for the at least one row using the generalized scalar function to allow the at least one row to be provided to the column function as though the at least one row was a column; and

(c) performing the column function on the at least one row to provide at least one output.

Similarly, claim 8 recites:

A computer-readable medium containing a program for utilizing a column function for a relational database in a structure query language (SQL) environment, the column function capable of performing an operation on an indeterminate number of entries, the relational database utilizing data including a plurality of entries being organized into at least one column and at least one row, the program including instructions for:

(a) allowing a user to specify the at least one row as an argument for a generalized scalar function;

(b) simulating a column environment for the at least one row using the generalized scalar function to allow the at least one row to be provided to the column function as though the at least one row was a column; and

(c) performing the column function on the at least one row to provide at least one output.

Claim 15 recites:

A system for utilizing a column function for a relational database in a structure query language (SQL) environment, the relational database utilizing data including a plurality of entries organized into at least one column and at least one row, the system comprising:

a column function capable of performing an operation on an indeterminate number of entries;

a generalized scalar function for simulating a column environment for the at least one row using the generalized scalar function to allow the at least one row to be provided to the column function as though the at least one row was a column such that the column function can perform an operation the at least one row to provide at least one output;

an interface for allowing a user to specify the at least one row as an argument for the generalized scalar function.

Thus, using the method, computer-readable medium and system recited in claims 1, 8, and 15, respectively, the pre-existing column function can be reused to work on row data. As a result, the resources that would otherwise be used in rewriting, testing, and debugging a row

function that performs the operations of the column function are saved. Specification, page 9, lines 1-6; page 10, lines 9-13. Stated differently, the method, computer-readable medium, and system recited in claims 1, 9, and 15, respectively, can be used to extend the ability of the pre-existing column function to operate on row data without expending significant additional resources.

The Examiner has expressly stated that Melton "fails to disclose a specific instance of a generalized scalar function linked to a column function (or running and moving sequence function) as specified by a user." Furthermore, Applicant respectfully draws the Examiner's attention to the arguments made in the Amendment dated September 30, 2003. Consequently, Applicant respectfully submits that Melton alone fails to teach or suggest the method, computer-readable medium, and system recited in claims 1, 8, and 15.

Mozes has a filing date of May 31, 2001. The present application has a filing date of March 28, 2001. Because the filing date of the present application predates that of Mozes, without more, Mozes is *unavailable* for use as a prior art reference for the present application. Consequently, the teachings of Mozes cannot be combined with the teachings Melton in order to render any claim of the present application unpatentable. Accordingly, Applicant respectfully submits that claims 1, 8, and 15 are allowable over the cited references.

Claims 2-7, 9-14, and 16-21 depend upon independent claims 1, 8, and 15, respectively. Consequently, the arguments herein apply with full force to claims 2-7, 9-14, and 16-21. Accordingly, Applicant respectfully submits that claims 2-7, 9-14, and 16-21 are allowable over the cited references.

Claims 22-24 more clearly recite that entries correspond to intersections between rows and columns. Claims 22-25 also depend upon independent claims 1, 8, and 15. Consequently,

the arguments herein apply with full force to claims 22-24. Accordingly, Applicant respectfully submits that claims 22-24 are allowable as currently presented.

New claim 25 recites a method analogous to claim 1, but further recites that the data is provided entry by entry to the column function by the generalized scalar function. Consequently, the arguments herein apply with full force to claim 25. Accordingly, Applicant respectfully submits that claim 25 is allowable as presented. Claim 26 depends upon claim 25. Consequently, the arguments herein apply with full force to claim 26. Accordingly, Applicant respectfully submits that claim 26 is allowable as currently presented.

Applicant's attorney believes that this application is in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicant's attorney at the telephone number indicated below.

Respectfully submitted,
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Date

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